

Appln. No. 10/019,086
Amendment dated February 23, 2006
Reply to Office Action of August 23, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of producing a document having an integral optically diffractive security document or device located and formed therein, said document comprising a transparent substrate that is transparent, at least at the location of the integral security device, and an optically diffractive device, the method comprising the steps of:

5 applying a transparent coating to one side of the substrate at least at the location of the security device;

placing a single mask in the path of laser radiation to create a patterned laser beam bearing the pattern of the desired diffractive security device,

10 irradiating an area of a surface of the transparent coating ~~on~~ applied to one side of the substrate at the location of the security device with said patterned laser beam bearing the pattern of the desired diffractive security device to ablate selected portions of the surface of the transparent coating and thereby form a three-dimensional optically diffractive structure in said transparent coating comprising the integral optically diffractive security device.

Claim 2 (canceled)

Claim 3 (currently amended): A method of producing a security document with a security device according to claim 1, wherein the substrate comprises a transparent plastics film.

Claim 4 (currently amended): A method of producing a security document with a security device according to claim 3, wherein the transparent plastics film is formed from polymeric material.

Claim 5 (canceled)

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Claim 6 (currently amended): A method of producing a security-document with a security or-device according to claim 1 wherein the transparent coating is formed from polymeric material.

Claim 7 (currently amended): A method of producing a security-document with a security or-device according to claim 1, wherein a reflective coating is applied to the transparent coating after the optically diffractive structure is formed in the transparent coating.

Claim 8 (currently amended): A method of producing a security-document with a security or-device according to claim 7, wherein the reflective coating is formed from polymeric material containing metallic pigment particles.

Claim 9 (currently amended): A method of producing a security-document with a security or-device according to claim 7, wherein both the reflective coating and the transparent coating are formed from material which is similarly resistant to physical degradation.

Claim 10 (currently amended): A method of producing a security-document with a security or-device according to claim 1, wherein the substrate further includes a transparent layer applied to the transparent coating.

Claim 11 (currently amended): A method of producing a security-document with a security or-device according to claim 10, wherein the transparent layer is formed from polymeric material.

Claim 12 (currently amended): A method of producing a security-document with a security or-device according to claim 10, wherein both the transparent layer and the transparent coating are formed from material which is similarly resistant to physical degradation.

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Claims 13-17 (canceled)

Claim 18 (currently amended): A method of producing a security document with a security or-device according to claim 1, the method further comprising the step of:

applying at least one opacifying layer to the substrate, said at least one opacifying layer only partly covering a surface of the substrate to leave at least said optically diffractive device uncovered by said opacifying layer at the location of the security device.

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Claims 19-34 (canceled)

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Claim 35 (currently amended): A method of producing a document having an integral transmissive optically diffractive security document or device located and formed therein, said document comprising a transparent plastics substrate that is transparent at least at the location of the integral security device, and a transmissive optically diffractive device, the method comprising the steps of:

applying a transparent coating to one side of the transparent plastic substrate at least at the location of the security device;

irradiating an area of a surface of the transparent coating applied to on one side of the substrate at the location of the security device with a patterned laser beam to ablate selected portions of the surface and thereby form a transmissive optically diffractive structure in said transparent coating comprising the integral, transmissive, optically diffractive security device.

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Claim 36 (previously presented): A method according to claim 35 wherein a mask is placed in the path of laser radiation to create said patterned laser beam bearing the pattern of the desired optically diffractive structure.

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Claim 37 (previously presented): A method according to claim 35 wherein the transparent plastics substrate comprises a polymeric film material.

Claims 38-40 (canceled)

Claim 41 (currently amended): A method according to claim 35 wherein a transparent layer is applied over the ablated surface of the transparent coating forming the optically transmissive diffractive structure.

Claim 42 (currently amended): A method according to claim 35 wherein at least one opacifying layer is applied to at least one surface of the transparent plastics substrate except in the area location of the transmissive optically diffractive structure.

Claims 43-55 (canceled)